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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/729,362	CHEN ET AL.	
	Examiner	Art Unit	
	SAIF A. ALHIJA	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-15,21-25 and 28-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-15,21-25 and 28-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 12-15, 21-25 and 28-41 have been presented for examination.

Claims 1-11, 16-20, and 26-27 have been cancelled.

Claims 31-41 are newly presented.

Response to Arguments

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3 December 2008 has been entered.

PRIOR ART ARGUMENTS

i) Applicants argue that Stewart does not teach **"gathering an identifier for a data and model flow."** Applicants further state that the prior art of record is silent as to the teaching of an editor as per paragraph 101 of the specification of the instant application. First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., model editor as per paragraph 101) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Second, the Examiner notes that as per paragraph 70 of Stewart **"In one embodiment, the results cache may include parameter identifiers or names, their respective values, and objectives, although more or less information is contemplated within the scope of the present invention."** See also paragraph 24 of Stewart which recites **"The user interface module 106 may also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied by a batch or console interface to allow scripted or command line optimizations."** Following the broadest reasonable interpretation of the claim language the identifiers of data and model flow are seen in the citations presented above. Further explicit clarification in the body of the claim is required in order to read the limitation in the manner presented by Applicants arguments. Therefore the rejections are **MAINTAINED**.

ii) Applicants argue that the reference does not teach polling inquiry. The Examiner notes that Applicants utilize a majority of the arguments with this lack of teaching to the Stewart reference and then state that Woodbury appears to be silent. As stated previously **the Stewart reference does not explicitly disclose dynamically populating the data through polling of a computer system. The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system. <u>However Woodbury teaches, on page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.</u>** Applicants argue that there is no motivation to combine the references however in view of **KSR (The Examiner notes that Applicants have cited numerous court cases except KSR), 550 U.S.at ___, 82 USPQ2d at 1391 which reads "The Supreme Court further stated that: <u>When a work is available in one field of endeavor,</u> design incentives and other market forces can prompt variations of it, <u>either in the same field or a different one.</u> <u>If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.</u> For the same reason, if a technique has been used to improve one device, <u>and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.</u> Id. at ___, 82 USPQ2d at 1396." (Emphasis added)** The Examiner cannot see how a person of ordinary skill in the art would lack the skill to combine the references nor can the Examiner see how the resultant of the claims would be beyond the skill of one of ordinary skill in the art. The Examiner notes specifically that the combination of the modeling modules in Figure 2 of Stewart and the polling recited in the citation of Woodbury above reads on the limitation presented. Therefore the rejections are **MAINTAINED**.

iii) Applicants argue that the references do not teach a metric map. As per paragraph 0027 of the instant application **"The metric map allows for defining of model variables and their associated units of measure."** See the Problem Specification Sample of Stewart which clearly defines both parameter names and their associated values which reads on the metric map of the claim. Therefore the rejections are **MAINTAINED**.

iv) Applicants argue that the references do not teach a plot module as defined nor would it be obvious to one of ordinary skill in the art. As per Applicants statements the limitation is intended to recite the presentation of analysis data. As per the modeling modules of Figure 2 of Stewart and the graphical results of Woodbury, also

Figure 2, the Examiner contends that the presentation of analysis data from the data analysis module, see element 201 of Figure 2 of Stewart, would have been obvious to one of ordinary skill in the art at the time of the invention. This conclusion is reinforced by the ruling of **KSR, 550 U.S.at ___, 82 USPQ2d at 1391 which reads "The Supreme Court further stated that: <u>When a work is available in one field of endeavor</u>, design incentives and other market forces can prompt variations of it, <u>either in the same field or a different one</u>. <u>If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability</u>. For the same reason, if a technique has been used to improve one device, <u>and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.</u> Id. at ___, 82 USPQ2d at 1396." (Emphasis added)** The Examiner cannot see how a person of ordinary skill in the art would lack the skill to combine the references nor can the Examiner see how the resultant of the claims would be beyond the skill of one of ordinary skill in the art. Therefore the rejections are **MAINTAINED**.

v) Since no additional arguments were made regarding claims 13-15 they rejections are also **MAINTAINED.** With respect to claims 21-25 and 28-30 see Examiners responses above.

vi) Applicants argue that the references do not teach the ordering and interoperability of models which allows the output of one model serves as the input of another. The Examiner notes that the three models discussed include a workload prediction model, performance analysis model, and an optimization model. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively. This reads on the ordering and interoperability recited in the claims and argued by Applicants. Applicants go on to state that claims would allow predictions of future loads and system changes for optimization. The performance prediction and optimization aspects discussed above read on this and therefore the rejections are **MAINTAINED.**

vii) Applicants argue that the P reference and Woodbury do not teach the elements of claims 32-41. The Examiner notes that Stewart was also relied upon in the previous office action and was not mentioned with respect to these claims. See prior art citations below.

<u>EXAMINERS NOTE</u>

viii) Examiner has cited particular columns and line numbers in the references applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

ix) The Examiner respectfully requests, in the event the Applicants choose to amend or add new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution.

x) Further, the Examiner respectfully encourages Applicants to direct the specificity of their response with regards to this office action to the broadest reasonable interpretation of the claims as presented. This will avoid issues that would delay prosecution such as limitations not explicitly presented in the claims, intended use statements that carry no patentable weight, mere allegations of patentability, and novelty that is not clearly expressed.

PRIORITY

3. Acknowledgment is made of applicant's claim for priority to provisional application 60/510833 filed on 14 October 2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 12-15, 21-25, and 28-41 are rejected** under 35 U.S.C. 103(a) as being unpatentable over **Stewart et al. "Modular Architecture for Optimizing a Configuration of a Computer System", U.S. Patent Application No. 2003/0208284,** hereafter referred to as **Stewart** in view of **Woodbury et al., "Performance Modeling and Measurement of Real-Time Multiprocessors with Time-Shared Buses", hereafter Woodbury.**

Regarding Claim 12:

The reference discloses A method for utilizing a software editor for defining, revising, and storing a data and model flow for modeling and analyzing a plurality of computing workloads, the method comprising: gathering an identifier for a data and model flow; **(Stewart. Paragraph 70, "In one embodiment, the results cache may include <u>parameter identifiers or names, their respective values, and objectives</u>, although more or less information is contemplated within the scope of the present invention.")** designating a data collection module configured to dynamically populate a measurement object in response to a polling inquiry from a modeling module, the measurement object comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads; **(Stewart, Paragraph 24, which recites "The user interface module 106 may also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied <u>by a batch or console interface to allow scripted or command line optimizations</u>.")**

wherein the modeling module designates a workload prediction model, a performance analysis model, and an optimization model that use the updated performance data wherein the modeling module is further configured such that output data from a first model serves as input data for a second model in a hierarchy of models; **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

utilizing a metric map for defining model variables required to analyze analysis data compiled from the plurality of models; **(Stewart. As per Paragraph 0027 of the instant application "The metric map allows for defining of model variables and their associated units of measure." See the Problem Specification Sample of Stewart which clearly defines both parameter names and their associated values which reads on the metric map of the claim.)**

The Stewart reference does not explicitly disclose the polling inquiry or utilizing a plot module for designating a data analysis module configured to present analysis data compiled from the plurality of models.

The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system.

Woodbury teaches in response to a polling inquiry as well as utilizing a plot module for designating a data analysis module configured to present analysis data compiled from the plurality of models. **(Woodbury, page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.) as well as (Woodbury further teaches the data analysis and modeling in Section IV, Experimental Workloads, B-C.)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to gather data from an actual system in real-time, as discussed in Woodbury, for the analysis in Stewart in order to monitor an actual system as it runs.

Stewart in view of Woodbury does not explicitly disclose a "plot module."

However as per the modeling modules of Figure 2 of Stewart and the graphical results of Woodbury, also Figure 2, the Examiner contends that the presentation of analysis data from the data analysis module, see element 201 of Figure 2 of Stewart, would have been obvious to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to graphically plot the result data provided by **Stewart and Woodbury** in order to allow for user simplicity.

Regarding Claim 13:

The reference discloses The method of claim 12, further comprising utilizing a storage module configured to store and retrieve the data and model flow from a persistent data structure. **(Stewart. Paragraph 114. Page 3, Problem Spec Sample)**

Regarding Claim 14:

The reference discloses The method of claim 13, wherein the persistent data structure comprises an extensible Markup Language (XML) file. **(Stewart. Paragraph 114. Page 3, Problem Spec Sample)**

Regarding Claim 15:

The reference discloses The method of claim 13, wherein the persistent data structure comprises a database. **(Stewart. Paragraph 9)**

Regarding Claim 21:

The reference discloses A method for implementing an application programming interface (API) for modeling and analyzing of computing workloads, comprising:

utilizing a measurement software class configured to dynamically populate a measurement object in response to a polling inquiry from an instance of a run-time manager software class, the measurement object

comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads; **(Stewart, Paragraph 24, which recites "The user interface module 106 may also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied <u>by a batch or console interface to allow scripted or command line optimizations</u>.")**

utilizing a workload software class that defines a data and model flow associated with the computer system, the workload software class comprising a workload prediction model software class, a performance analysis model software class, and an optimization model software class two that utilize the gathered performance data to model attributes of the computer system wherein the output data from a first model serves as input data for a second model in a hierarchy of models; and **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

wherein the run-time manager software class is configured to periodically poll for measurement objects instantiated from the measurement software class and execute one or more model objects instantiated from model software classes in response to the data and model flow defined by one or more workload objects **(Stewart. Paragraph 70, "In one embodiment, the results cache may include <u>parameter identifiers or names, their respective values, and objectives</u>, although more or less information is contemplated within the scope of the present invention.")**

The Stewart reference does not explicitly disclose the polling inquiry.

The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system.

Woodbury teaches in response to a polling inquiry **(Woodbury, page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.) as well as (Woodbury further teaches the data analysis and modeling in Section IV, Experimental Workloads, B-C.)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to gather data from an actual system in real-time, as discussed in Woodbury, for the analysis in Stewart in order to monitor an actual system as it runs.

Regarding Claim 22:

Stewart discloses The method of claim 21, further comprising utilizing a real-time interface module configured to start and stop execution of one or more workload objects. **(Stewart. Page 3, Problem Spec Sample. Figure 3 and its corresponding description)**

Regarding Claim 23:

The reference discloses the analysis data associated with a specific workload object identified by a user. **(Stewart. Page 3, Problem Spec Sample. Figure 3 and its corresponding description)**

Stewart does not explicitly disclose The computer program product of claim 21, wherein the interface is further configured to present analysis data compiled by a plot object instantiated from a plot class.

However, it would have been obvious to one of ordinary skill in the art to graphically plot the result data provided by **Stewart** in order to allow for user simplicity.

Regarding Claim 24:

The reference discloses A method for modeling and analyzing a plurality of computing workloads the method comprising:

dynamically populating a measurement object in response to a polling inquiry from a modeling module, the measurement object comprising updated performance data associated with the operation of a computer system the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads; **(Stewart, Paragraph 24, which recites "The user interface module 106 may**

also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied <u>by a batch or console interface to allow scripted or command line optimizations</u>.")

executing a plurality of models comprising a workload prediction model, a performance analysis model, and an optimization model that use the gathered performance data wherein the modeling module is further configured such that output data from a first model serves as input data for a second model in a hierarchy of models; presenting analysis data compiled from the at least one model; **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

presenting analysis data compiled from the plurality of models; and **(Stewart. Figure 2, element 201)**

providing a framework configured to manage the gathering of performance data, the execution of the plurality of models, and the presentation of the analysis data in response to a predefined data and model flow. **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

The Stewart reference does not explicitly disclose the dynamic polling inquiry.

The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system.

Woodbury teaches the dynamic polling inquiry. **(Woodbury, page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.) as well as (Woodbury further teaches the data analysis and modeling in Section IV, Experimental Workloads, B-C.)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to gather data from an actual system in real-time, as discussed in Woodbury, for the analysis in Stewart in order to monitor an actual system as it runs.

Regarding Claim 25:

The reference discloses The method of claim 24, wherein the framework is executed from within a third-party application. **(Stewart. Paragraph 116)**

Regarding Claim 28:

The reference discloses A method for modeling and analyzing a plurality of computing workloads the method comprising

specifying a data and model flow for monitoring a computer system; **(Stewart. Paragraph 70, "In one embodiment, the results cache may include <u>parameter identifiers or names, their respective values, and objectives</u>, although more or less information is contemplated within the scope of the present invention.")**

invoking a modeling and analysis utility, wherein the data and model flow defines performance data that is dynamically populated in a measurement object in response to a polling inquiry from a modeling module, the measurement object comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads; and **(Stewart, Paragraph 24, which recites "The user interface module 106 may also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied <u>by a batch or console interface to allow scripted or command line optimizations</u>.")**

models that are executed periodically using the performance data to compile analysis data representative of results from one or more of the models wherein output data from a first model serves as input data for a second model in a hierarchy of models; and **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module,**

element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)

receiving a representation of the analysis data from the modeling and analysis utility, in response to an event. **(Stewart. Figure 2, element 201)**

The Stewart reference does not explicitly disclose the dynamic polling.

The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system.

Woodbury teaches a polling inquiry. **(Woodbury, page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.) as well as (Woodbury further teaches the data analysis and modeling in Section IV, Experimental Workloads, B-C.)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to gather data from an actual system in real-time, as discussed in Woodbury, for the analysis in Stewart in order to monitor an actual system as it runs.

Stewart in view of Woodbury do not explicitly disclose a "real-time graphical representation of the analysis data."

However as per the modeling modules of Figure 2 of Stewart and the graphical results of Woodbury, also Figure 2, the Examiner contends that the presentation of analysis data from the data analysis module, see element 201 of Figure 2 of Stewart, would have been obvious to one of ordinary skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to graphically plot the result data provided by **Stewart** in order to allow for user simplicity.

Regarding Claim 29:

The reference discloses The method of Claim 28, wherein the event comprises analysis data that fails to satisfy a threshold value. **(Stewart. Paragraph 21)**

Regarding Claim 30:

The reference discloses The method of Claim 28, wherein the event comprises a user request, the modeling and analysis utility presenting the graphical representation of the analysis data to a user by way of a user-defined plotting module. **(Stewart. Page 3, Problem Spec Sample. Figure 3 and its corresponding description)**

Stewart and Woodbury do not explicitly disclose the modeling and analysis utility presenting the graphical representation of the analysis data to a user by way of a user-defined plotting module.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to graphically plot the result data provided by **Stewart** in order to allow for user simplicity.

Regarding Claim 31:

The reference discloses A method to model and analyze a plurality of computing workloads, the method comprising:

specifying a data and model flow within a framework for analyzing the performance of a computer system by selecting **(Stewart. Paragraph 70, "In one embodiment, the results cache may include <u>parameter identifiers or names, their respective values, and objectives</u>, although more or less information is contemplated within the scope of the present invention.")**

a workload prediction model configured to generate a forecasted workload, the forecasted workload configured by the framework to serve as input to a model specified in the data and model flow,

a performance analysis model configured to generate performance information and configured to monitor and analyze the computer system's performance based on a workload, the performance information configured by the framework to serve as input to models specified for the data and model flow, and **(Stewart, Paragraph 24, which recites "The user interface module 106 may also include a stepper module (not shown) to automate stepping through simulation iterations with varied parameters. It should also be understood that the user interface module 106 may be embodied <u>by a batch or console interface to allow scripted or command line optimizations</u>.")**

an optimization model configured to generate computer system configuration changes based on a workload, the computer system configuration changes configured by the framework to serve as input to models specified for the data and model flow for the computer system, and specifying an order in which the models are to be executed; **(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

executing the selected models within the framework wherein output data from at least one of the selected models is configured by the framework to serves as input data to at least one other selected model, and wherein the selected models are executed in the order defined by the specified data and model flow; and**(Stewart. Figure 2, element 220 recites a performance and prediction system simulator as per paragraph 26 of Stewart. This is further connected to the optimization module, element 200 of Figure 2, and they are controlled by (i.e a framework) the user interface and problem manager modules, elements 210 and 212 of Figure 2 respectively.)**

presenting analysis data compiled from the execution of the selected models, the framework configured to manage the gathering of performance data, the execution of the selected models, and the presentation of the of the analysis data. **(Stewart. Figure 2, element 201)**

The Stewart reference does not explicitly disclose the dynamic polling as indicated by the performance model and other independent claims.

The Examiner notes that this distinction lies only in that Stewart utilizes data gathered from a system which is then simulated and then the simulation of the system is modeled and analyzed rather than as Applicants have argued gathering data directly from an actual system.

Woodbury teaches a polling inquiry. **(Woodbury, page 216 left column, the workload of a real-time system which is then analyzed through polling, Section III.) as well as (Woodbury further teaches the data analysis and modeling in Section IV, Experimental Workloads, B-C.)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to gather data from an actual system in real-time, as discussed in Woodbury, for the analysis in Stewart in order to monitor an actual system as it runs.

Regarding Claim 32:

The reference discloses The method of Claim 31, further comprising specifying one of a predefined data collection module and a user defined data collection module that collects performance data about the computer system. **(Stewart. Elements 210, 214, and 220 as per Sections 2.i-vii above.)**

Regarding Claim 33:

The reference discloses The method of Claim 31 wherein at least one of the workload prediction model, performance analysis model, and optimization models is a user defined modeled. **(Stewart. Elements 210, 214, and 220 as per Sections 2.i-vii above.)**

Regarding Claim 34:

The reference discloses The method of Claim 31, wherein the selected workload prediction model is a time series model. **(Stewart. Table Page 4, "resource contention timelines")**

Regarding Claim 35:

The reference discloses The method of Claim 34, wherein the selected performance analysis model is a queuing system model. **(Woodbury, Section III, queuing model)**

Regarding Claim 36:

The reference discloses The method of Claim 35, wherein the framework is configured to make the output of the time series model compatible as an input to the queuing system model. **(Woodbury, Section III, queuing model) See also Section 2.vi above.**

Regarding Claim 37:

The reference discloses The method of Claim 31, wherein specifying a data and model flow is integrated within a predefined user interface. **(Stewart. Elements 210, 214, and 220 as per Sections 2.i-vii above.)**

Regarding Claim 38:

The references do not explicitly disclose The method of Claim 31, wherein specifying a data and model flow is integrated within a third-party application.

However it would have been obvious to one of ordinary skill in the art at the time of the invention to allow third party access to the modeling of the instant application for modularity, portability, and accessibility. See motivation with respect to KSR in Section 2.ii above.

Regarding Claim 39:

The reference discloses The method of Claim 31, wherein the modeling module is further configured to execute a plurality of models in parallel. **(Woodbury, Section III, queuing model on multiprocessor system)**

Regarding Claim 40:

The reference discloses The method of Claim 31, further comprising implementing the predefined data and model flow at least in part by defining a workload software object from a persistent data structure, the workload software object comprising parameters for gathering performance data, executing the modeling module, and presenting analysis data. **(Stewart. Elements 210, 214, and 220 as per Sections 2.i-vii above.)**

Regarding Claim 41:

The reference discloses The method of Claim 31, further comprising utilizing an editor configured to allow a user to define and store the predefined data and model flow. **(Stewart. Elements 210, 214, and 220 as per Sections 2.i-vii above.)**

Conclusion

5. All Claims are rejected.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAIF A. ALHIJA whose telephone number is (571)272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-22792279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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SAA

/Kamini S Shah/
Supervisory Patent Examiner, Art Unit 2128

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